



Submission from Scenic Hills Association
Jacqui Kirkby to: csg.review

26/04/2013 05:02 PM

History:

This message has been replied to and forwarded .

Dear Professor O'Kane

The attached submission has been prepared in haste and may contain errors . We therefore ask that we be given the weekend to review the submission and re-submit on Monday if necessary. It is being sent now in order to meet the deadline for submissions .

Yours sincerely

Jacqui Kirkby

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25th April 2013

Professor Mary O’Kane
Chief Scientist and Engineer
NSW Office of Chief Scientist and Engineer
SYDNEY NSW 2000

Sent by email to csq.review@chiefscientist.nsw.gov.au

Dear Professor O’Kane

Re: Independent Review of Coal Seam Gas (CSG) Activities in NSW, focussing on its impact on Human Health & Environment

I write on behalf of the Scenic Hills Association.

1. Preamble: The importance of this review and why this may be our last submission

The Scenic Hills Association was formed in March 2010 by landowners and residents living in or near the Scenic Hills Environmental Protection area of Campbelltown and Camden Local Government Areas, with supporters now spread out across Western Sydney and as far north as Queensland. We did not start out as an anti-CSG mining group, but became involved in this issue almost immediately when we learnt that AGL Energy Limited (AGL) intended to expand the Camden Gas Project into the Scenic Hills Protection Area and surrounding suburbs of Campbelltown and Camden (Stage 3, Northern Expansion, application 09_0048) within the Sydney Metropolitan Area.

We have spent a great deal of time investigating CSG mining and AGL’s proposal, meeting on numerous occasions with AGL and joining (at its invitation) the Camden Gas Project Community Consultative Committee (CCC) in November 2010 (I am the representative for our community). We have fully engaged in the process, with endless rounds of meetings, site visits, correspondence and submissions over the last three years to the point of exhaustion. Our major submissions include two for Stage 3 (for the two public exhibitions in 2010 and 2012), one to the Federal Environment Minister (to force AGL to submit Stage 3 for Federal approval as it should have done from the beginning), three submissions to the Upper House Inquiry as well as appearing at a hearing, and another submission recently on the *Draft Amendment to the State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) (Coal Seam Gas Exclusion Zones) 2013 (Draft Mining SEPP Amendment)* to implement the exclusion zones announced by the Premier, amongst many other minor submissions.

The result of all this is that we, along with many others in the local community and around NSW, have lost faith in the planning system in particular and in the processes of government generally. There are two reasons for this:

- The ongoing manipulation of the system to assess and determine CSG projects through the apparent collusion of the CSG industry and the NSW Government, and
- The absence of scientifically-valid evidence to support the claims of the industry and of government

1.1. The ongoing manipulation of the system to assess and determine CSG projects through the apparent collusion of the CSG industry and the NSW Government

With each of our submissions, we worked with and within the system only to have our issues ignored (Upper House Inquiry) or the goal posts moved through the apparent collusion of AGL with the NSW Government every time it looked like we would get a judgement in our favour, as follows:

In our 2010 submission, which was being assessed under Part 3A of the *Environment Planning and Assessment Act 1979* (the EP&A Act), we challenged AGL's legal right to mine in the Scenic Hills Protection zone, and had legal advice that we would be able to appeal the merits of any approval in the Land and Environment Court (LEC). AGL took 18 months to respond submissions. Documents acquired by us in a GIPA request to the NSW Department of Planning (DoPI) show that AGL was concerned about the permissibility issues raised by us and was apparently canvassing with the DoPI various options for avoiding any challenge. It finally did so by transferring its project in mid-2012 from Part 3A to the O'Farrell Government's new State Significant Development (SSD) regime, thereby avoiding any planning prohibitions through the application of s89E of the *EP&A Act*, concerning development consent for SSD projects. S89E allows that (3) *Development consent may be granted despite the development being partly prohibited by an environmental planning instrument*. The project application was then put back on public exhibition with the Planning Minister referring it to the Planning Assessment Commission (PAC), thereby wiping out our right to a merits appeal in the LEC. AGL's concerns and our rights in this matter were thus extinguished by these two actions.

As further disadvantage to us, both public exhibitions in 2010 and 2012 occurred just prior to Christmas giving us little time to respond and depriving us of professional assistance at a critical time. This compares inequitably with the access AGL had to vast time and financial resources in preparing its application and its response to our 2010 submissions. It was an additional hardship for us given that many affected landowners in the Scenic Hills are religious organisations. We complained about this in our submission in 2010 but the DoPI repeated this unreasonable demand in 2012, so we assume it was done deliberately. The fact that extensions were given on the last day of submissions did nothing to remove the difficulties already experienced, including that an extension over the major holiday period is not a true extension.

Nevertheless we were able to make our submission and rally others in the community. We were confident that although we could no longer take this to the LEC, we had made our case. Clearly AGL thought so as well since it exercised its *unreasonable* and *inequitable* right to suspend its application on the last day before submissions closed, for 'further community consultation'. We read this as AGL being able to have a second opportunity to respond to our submissions, having failed the first time (with the

possibility of having its application refused by the PAC). The PAC was stood down and hearings cancelled and we were informed that AGL was entitled under the regulations to as much time as it wanted to respond, leaving the community in limbo.

The public outcry that this caused resulted in the Premier announcing the exclusion zones that local MPs claimed would make Stage 3 '*dead in the water*'. However our subsequent review of the regulations to implement this policy change – the Draft Mining SEPP Amendment - shows that AGL could still manipulate the system to get Stage 3 approved with reference to s89E of the EP&A Act. A further *inappropriate* loophole was provided in the Draft giving local councils the right to override the exclusion zones (the 'opt out' subclauses). These loopholes make the Premier's announced policy not worth the paper it is written on unless these loopholes are removed. It is hard to believe that those responsible for overseeing the drafting and approval this policy release did not know that this undermined the Premier's stated intentions in his media release of the 19th February 2013, raising many questions about the process.

After three years of this kind of response we could be forgiven for thinking that no matter what we do, the CSG industry and the NSW Government will continue to find a way to defeat us by manipulating the process and moving the goal posts to favour the advancement of this industry, undermining all confidence in the process of government and law in this state.

1.2. The absence of scientifically-valid evidence to support the claims of the industry and government

To further undermine confidence in the process of government and law in this state, we are at a loss to understand why it is so hard for industry participants, government bureaucrats and politicians alike to understand what constitutes *evidence*, what constitutes *independence*, and (combining the two) if such *independent evidence* exists why this cannot be made publicly available for scrutiny (*transparency*). We elaborate on this in our input to this review below '**Review of CSG activities in NSW**'.

In summary, it appears to us that, in addition to the unacceptable state of the evidence provided, the government is going out of its way to avoid proper scrutiny of the evidence, as illustrated by the way it has handled AGL's Camden Gas Project Stage 3: by first depriving us of our day in court (and the most independent scrutiny of the evidence), then depriving us of our day in the Campbelltown Catholic Club for the PAC hearings (next best option). Now the Government has referred it to you, albeit expanded beyond the Camden Gas Project, but nevertheless raising many questions about what we should expect of this latest delegation.

Thus we are asked to make yet another submission with little time to respond and we have no idea how comprehensive or transparent this process will be relative to the two other proposed processes that the Government lost its nerve with. We hope that this will not be our 'third best option', and put our hope in the fact that the one thing that has been missing throughout this process is *good science*: in particular respect for *scientific method*, the *rules of evidence*, and the role of *independence* and *transparency*. However we also note that there appears to be a totally inadequate time to carry out this review effectively. We also note that the Government did not make your report on 'fracking' publicly

available such that the community was forced to seek the information via GIPA requests. As I now spend the ANZAC Day holiday writing yet another submission it is fair to say that, should this process not meet community expectations, then it will be understandable if we decline to further participate in the charade.

2. Review of CSG activities in NSW

This submission is designed to supplement and complement prior submissions to the NSW Government on CSG mining rather than duplicate the information (see point 2.1 below). Thus, in our recommendations we address the high level issues rather than the detail – only providing the latter in an illustrative sense. Since our experience only relates to AGL, it will be the prime focus of our examples.

2.1. Prior submissions

For this process to have any chance of restoring confidence in the system we ask that this review look afresh at all the *submissions* and *hearings transcripts* of the NSW Upper House Inquiry in 2011 (i.e. ignoring what the Committee recommended in its report). We also ask that it include all the submissions to the DoPI for the Camden Gas Project Stage 3 in 2010 and 2012. Not only will you benefit from the information provided there but it will also let the community out here know that the huge amount of work (twice) was not in vain. We will proceed with the rest of this submission assuming that this request will be acted on.

2.2. Lack of ‘independence’ in the process for acquiring evidence leading to false and misleading information

AGL and the NSW Government frequently use the word ‘independent’ when they should use terms such as ‘third party’ or other more accurate terms. Any party that is engaged by AGL and paid by AGL is not independent of AGL, as ‘outsourcing’ is not the same as ‘independence’. Yet nearly all the information we have comes to us this way. For as long as this industry, and AGL (as the particular example here) is allowed to take its own baseline studies, self-monitor, self-investigate (when there is an accident or incident) and self-report, we can have no confidence in the information as AGL (and other industry participants) have a vested (and large financial) interest in the outcome.

Likewise, research that is funded by the industry is not independent. As such, the community is justified in not giving credence to such research. We are deeply disturbed that the CSIRO and University of Queensland are involved in such joint research ventures.

We also note with growing concern that potential sources of independent information are being diminished as the CSG industry moves to engage consultants, former government bureaucrats (responsible for overseeing the industry) and academics to work in or for the industry, often at higher fees than the community can pay. We note by example that Campbelltown City Council sought to engage an expert to peer review AGL’s water studies for Stage 3 of the Camden Gas Project. We understand that the CSIRO and University of Queensland were not available to do the job (unsurprisingly), so the University of New South Wales was engaged. At a meeting on the 4th April with AGL (a community consultation on its new water and air monitoring), I noted with

concern a passing comment by AGL that it had had since engaged the University of New South Wales itself. Another example of this was given in evidence at a hearing of the NSW Upper House Inquiry on the 16th November 2011 at Narrabri. Mr James Bishop, a spokesperson for the Mullaley Gas Pipeline Accord related how, having been criticised by the Soil Conservation Services in a report commissioned by the industry (Jemena), they had engaged an ‘eminent soil scientist’ to examine soil erosion along the pipeline who concluded that the pipeline should not proceed in black soil areas due to the science behind it. They reportedly paid him a fee of approximately \$6000 to \$7000 for the report, but later learned that Santos (who took over the project) had reportedly later offered him \$130,000 to carry out a similar study. While there is no suggestion the soil scientist was persuaded to change his views, we believe that the ability of the industry to engage experts at higher fees than the community is cause for great concern.

The ABC Four Corners’ program ‘Gas Leak’ that screened on the 1st April 2013 further reported that supervisors in the Queensland Government who had been responsible for overseeing the approval of the two large CSG projects in Queensland (Santos and QGC) had since joined the CSG industry. No evidence was provided to suggest a direct link between the alleged poor quality of the assessment and their subsequent move into the industry, but it undermines confidence in the quality of the assessment and the information on which these projects were approved.

We are also concerned about reported attempts by the industry to control information by disingenuously discrediting truly independent sources. The Sydney Morning Herald on the 19th November 2012 quoted a letter from APPEA to the Vice Chancellor of Southern Cross University in relation to its recent air emissions study in the Tara CSG field in Queensland and claimed other universities had received similar letters¹.

The effect of all this is to undermine confidence in the reliability of the information about this industry as well as in the processes to oversee the industry. We believe that a review of similar practices with Big Tobacco in the USA and the asbestos industry in Australia and how these practices were implicated in false and misleading information that led to the subsequent disastrous impact on human health ***must form part of this review.***

2.3 Lack of scientific rigour in industry research

Since, under the current system, the CSG mining industry commissions its own research to support its applications, we are dismayed, not just by the lack of *independence* in this, but by the lack of *scientific rigour* in the way the industry (in this case AGL) goes about gathering its research. We are further disturbed that government bodies responsible for overseeing the industry do not appear to be doing anything about this. Here are just a few examples:

AGL frequently claims that the Camden Gas Project produces less waste water than projects elsewhere. While this may be correct, it is completely without context and therefore unbelievable

¹ <http://www.smh.com.au/environment/report-on-gasfield-leaks-is-premature-says-industry-20121118-29ka2.html>

without further support. As we understand it water is mainly produced when a well is brought into production and the coal seam is being de-pressurised such that comparing an established gas field such as at Camden (the only large scale producing gas field in NSW, running for eleven years) with a developing gas field in Queensland would not be a valid comparison. Despite raising this with AGL, management has still not produced the supporting evidence.

At a briefing to the CCC in November 2010, AGL reassured us about well integrity with reference firstly to tests AGL was doing on wells drilled some decades before. Responding to a question from me, AGL confirmed that the technology had changed since then, but when challenged on whether the comparison was therefore valid went on to reassure us about the integrity of the wells with reference to the longevity of steel and concrete buildings! Apart from the fact that we understand the industry uses cement (not concrete), the role played by the different environments surrounding these structures (and the greater corrosive context of wells versus buildings) seemed alien to AGL. We note that at the same meeting AGL confirmed that horizontal wells had a tendency to collapse, which is not surprising to us after listening to this presentation.

On the 4th April, AGL invited members of the CCC, bureaucrats from the three Macarthur Councils, DoPI and Environmental Protection Authority (EPA) and other members of the public (regarded as being more open to CSG mining as per AGL statements at a prior CCC meeting) to attend a briefing on AGL's new water and air monitoring proposals. The projects, as presented, lacked scientific rigour despite AGL claiming that it had been collaborating with your Office, the NSW Land and Water Commissioner, the DoPI, the NSW Office of Water and the EPA. A number of community representatives at the meeting criticised the projects on this basis but AGL (and government agencies/departments) appear to have ignored this feedback as, according to its full page advertisements this week in local newspapers, it is proceeding with these projects as presented. To briefly summarise the issues: firstly the objectives were not clearly specified. Without objectives the methodology cannot be assessed. I found myself working back from the apparent methodology to arrive at the objectives and concluded that both the air and water monitoring were designed simply to provide reassurance to the community about the safety of AGL's operations while using a methodology that can be described at best as 'smoke and mirrors' and without any substance. A few examples are:

- The water monitoring bores are located (and will be further expanded) in Stage 3. Since these fall into the proposed exclusion zones AGL could give no explanation as to why it was focusing its efforts there and how that related to AGL's active coal seam gas production field in prior Stages of the Camden Gas Project. Further, AGL continues to claim that it has carried out water monitoring in prior Stages of the Camden Gas Project where it also claims (unscientifically) that its operations have had no impact. According to Dr Gavin Mudd of Monash University, AGL has never carried out any scientifically acceptable monitoring of shallow aquifers in prior stages and therefore can make no claim about impacts when it has *no data* – as Dr Mudd pointed out in his report to the Hunter Valley Protection Alliance in

2010², on the ABC's Four Corners "Gas Leak" 1st April 2013 and at a Campbelltown Community Information Forum on the 13th February 2013. This is covered more fully in our prior submissions.

- The air emissions monitoring is even more disturbing. Again no valid objectives and a dubious methodology. We assume that this project is to address concerns raised about the preliminary findings of Southern Cross University (SCU) on the Tara estate in Queensland (see our 2012 submission on Stage 3). Disturbingly, the consultant who is conducting the study along with an AGL manager made comments that suggested that neither of them had read (or perhaps understood) the nature of that research. An EPA representative also confirmed at the meeting that he had not read the research. Further there appeared to be no understanding of the relationship between those findings and the health impacts reported at Tara. While AGL's consultant claimed that methane is not dangerous to human health, monitoring was curiously to be located next to residential areas, retirement villages etc. Community participants at this meeting were ludicrously asked to nominate further monitoring sites by pinning coloured markers to large maps. For what purpose? Where is the scientific methodology? If any of these government or AGL representatives had investigated the available research on the Tara CSG field they would have known that the objective of the research was to measure greenhouse gas emissions (hence CO₂ and methane). However the SCU researchers have since suggested that these could be proxies for other co-emitted gases that could be responsible for the health impacts at Tara. Importantly Queensland Health investigated the claims and all it could say was that there was no evidence (not that the residents' health claims were invalid). At the meeting I asked about co-emitted gases on the Camden Gas Project. While AGL claimed that there were no dangerous co-emitted gases, the EPA representatives at the meeting admitted that the EPA has never tested the gas coming out of the Camden Gas Project to ascertain whether there are any co-emitted gases that could be dangerous to human health. Since NSW Health claims that it takes its direction on health impacts from the EPA, this is an unacceptable situation and derisory!

Lack of scientific rigour is not confined to the CSG mining industry. We are deeply concerned at comments made by Government Ministers, echoing the industry, that NSW will have gas and electricity shortages and that prices will go up if the CSG mining industry does not proceed to production in NSW. We can find no evidence to support these claims. Indeed a review of gas fields in Australia suggests that there are vast resources of conventional gas that could supply our needs as a transition to renewables, providing we put in place a domestic gas reservation policy. Since conventional sources of gas do not have the same concerns about fugitive gas emission as unconventional sources we believe that this review should address this issue on the basis that global warming is a health and environment issue.

Following on from the last point, although it is not included directly in the Terms of Reference for this review³, the issue of CSG's contribution to greenhouse gas emissions and global warming seem

² Dr. Gavin M. Mudd, *Environmental and Groundwater Issues and AGL's Hunter Coal Seam Gas Project*, Final Report to the Hunter Valley Protection Alliance, February 2010, p. 6.

to us to be crucial in assessing whether NSW should be supporting the ongoing development of this industry particularly in the context of its conflicts with other land use, the environment and human health. Yet there is no scientific evidence to support the claims of the CSG mining industry that CSG can play an important role as a *substitute* or even *transitional* fuel in reducing greenhouse gas emissions from our energy usage. The industry originally misled the public about this by claiming that natural gas '*burns cleaner than coal*', completely ignoring any kind of lifecycle analysis. However the *independent* research on the Tara CSG fields, while preliminary, is informative as it addresses not just fugitive emissions from leaking infrastructure (wells, pipelines) which can usually (but not always) be fixed, but fugitive emissions from damage/disturbance to the geology from CSG mining (drilling, fracking and depressurisation of the coal seams). We note that the EPA has instructed AGL to implement a program in the Camden Gas Project to track (and fix) the former but not the latter.

It is critical that CSG mining's true contribution to greenhouse gas emissions be established so that true costs associated with this industry can be applied and our energy policy established. Global warming's predicted impacts on human health demand that this form part of this review. However, as with all other research, this research must be conducted independently of the industry.

The current air emissions program being implemented on the Camden Gas Project is not based on good science for all the reasons stated above.

2.4 Unsubstantiated claims, false and misleading information and legal redress

This is related to point 2.3 above but goes further in suggesting that AGL is knowingly careless with the truth. AGL, like the rest of the industry, is required to consult with the community but fulfils this role *not* by fully informing the community but by trying to *sell* its project to the community. Clearly this is because it has a vested interest in progressing its projects on behalf of its shareholders. The community and those departments responsible for health and environment cannot make informed judgements without good information which must include a comprehensive risk assessment. Unfortunately there is no/limited legal redress against false and misleading statements by AGL (as for the rest of the industry). We have covered this extensively in our prior submissions so will not repeat the detail listed there, other than to say that, without legal redress via the ACCC (where it is not currently on its list of priorities) or via the planning legislation (where currently the onus is on the community to prove the false or misleading information was deliberate), the only other way to ensure reliable information is to allow the community merits appeal rights to the LEC for all CSG mining applications and appeal rights for breaches of consent conditions, conditions of petroleum licences and leases and conditions of environment protection licenses *independently* of any action the supervising government agencies or departments might take.

2.5 Lack of expertise, cultural problems in government departments/agencies with supervisory responsibilities

³ It can be argued that it is included indirectly as global warming indirectly affects human health.

The highly technical and technologically evolving nature of this industry is such that we do not believe the expertise exists in our government agencies and departments to assess information provided by the industry and effectively supervise this industry. At the very least bureaucrats need to be trained in *scientific method* and the *rules of evidence* so that they can carry out effective investigations of Environmental Assessments, accidents and incidents etc.

As an example, on the 29th January 2013 the EPA put out an Incident Alert (sourced by us from a GIPA request) about flooding of an AGL gas production well, MP25, a recent drill site located 40 metres from the Nepean River. The alert stated that staff from MP Jeremy Buckingham's office had attended the site and lodged a complaint about bubbling water (possibly methane) and chemicals and equipment that may have washed into the Nepean. The Alert states that the EPA attended the site on the same day (though flood waters had obviously subsided by then) and found no evidence of chemicals/materials leaving the site and that the site was fenced and intact preventing anything leaving the site; further that AGL and Jemena staff tested for methane in the EPA's presence and did not detect any methane using hand held meters. No mention was made of an open lined pit constructed by AGL to collect waste from the drill site. As a member of the CCC I requested that I (and other CCC members) also attend the site which we did the next day with the same EPA staff. Though the flood waters had completely subsided, I note the following:

- Campbelltown City Council had objected strongly to locating a well at this site due to the possibility of flooding. So why was it up to an MP's staff - having noted Council's concerns and seeing that flooding was predicted – to inspect the site rather than the EPA?
- Why did the EPA note that AGL self-reported? Why did the EPA not investigate further and determine (as I did) that AGL only reported this after discovering the MP's staff on site? This goes to the integrity of the current system that allows AGL to self-monitor and self-investigate.
- Having been tipped off by the MP's staff about the open lined pit, I requested that AGL show it to us. On questioning, AGL admitted that the pit had been flooded and the contents could have ended up in the Nepean. This completely contradicts the report of the EPA. The EPA had made no mention of this pit in its Alert causing me to wonder if the staff who had attended the site were aware of its existence. Further, while the EPA had stated in its alert that there was '*no evidence of chemicals/materials leaving the site*', neither was there evidence that they did not, yet the EPA made no mention of this in its Alert.
- Why did the EPA **not** bring its own monitoring equipment to test for methane to ensure complete independence?
- The EPA and AGL took me further up the river to where there had been evidence of bubbling water the day before that was some distance from the drill site. The water had subsided but, to my dismay, the EPA was keen to support AGL's view that the bubbling upstream was further *evidence* that the bubbling around the drill site was not associated with escaping methane due to AGL's CSG mining (also documented in its Alert). This is patent nonsense. While the bubbling on site **may not** have been methane, the fact that bubbling also appeared upstream was *not evidence* that the bubbling on the drill site was not methane. I further ascertained from AGL that the well was horizontal (thereby running

off the site for up to 2.5 kilometres) and asked AGL which direction the coal seam ran, only to be told that AGL *did not know* because it *had not done a hydro-geological study of the area!*

The errors in this investigation and reporting may reflect another concern we have about the *culture of pro-development* that pervades departments/agencies whose responsibilities are primarily to *protect*: health, the environment, heritage etc. We note by way of example the presentation by Dr Wayne Smith of NSW Health at the Campbelltown Community Information Forums on the 20th and 21st February 2013. Dr Smith seemed to be suggesting that, despite the health concerns raised by the community (such as on the Tara estate in Queensland) and despite there being no baseline studies on potential health impacts associated with CSG mining that we could find, he believed NSW Health and AGL could work out a way to progress CSG mining in Stage 3 (to the obvious dismay of the attending community). I and another member of our Association (the latter having research qualifications in medicine) separately approached Dr Smith to discuss the paucity of health research relating to CSG mining in this area. The responses we received were unhelpful and not accepted by either of us as a reasonable approach to this issue.

In addition to identifying the gaps in research on health and environment, we believe this review must investigate the *reasons* for paucity of health research, the *process* where NSW Health takes its lead from the EPA, the *expertise and competence* of those with responsibilities to protect and supervise, and the *cultural attitudes* of those agencies/departments whose primary responsibility is protect (*not* to facilitate development) - to determine the contribution of these issues to the quality of information on health and environment relating to coal seam gas mining.

2.6 Failure of compliance system

We have no confidence in the current system to manage and monitor the CSG mining industry. The Camden Gas Project is the only large scale producing CSG field in NSW that is already heavily regulated, yet we have seen constant failures in this system. The primary reason for the failures is that the CSG mining companies (in this case AGL) are allowed to self-monitor, self-investigate incidents and accidents, and self-report. Other possible reasons (competence, attitude) have already been discussed above.

We are also concerned about the EPA's ability to be the lead regulator in this system. We are concerned about its *independence* given the structure of its board which is dominated by industry, the extent of the penalties which appear to be inadequate, and we have concerns about the EPA's will and expertise (as documented above).

I particularly draw your attention to an incident with the Camden Gas Project that is still under consideration by the EPA, which we consider goes to the heart of this issue:

On the 15th August 2012 AGL released a media statement confirming that it had been in breach of its Environment Protection Licence (EPL 12003) *and* consent conditions for the Camden Gas Project

by not conducting continuous air monitoring at the Rosalind Park Gas Plant (RPGP), later admitting this was from 2008. Although AGL has not admitted it, it appears that it has also breached the conditions of its Petroleum Production Lease (PPL4). Air emissions from the RPGP are concerning because of the link between nitrogen oxides that it emits and the formation of ozone (associated with respiratory disease), which the EPA admits can reach unacceptable levels in this area.

However our main concern is that AGL has reported false and misleading monitoring information for at least four years, a situation that was not picked up by any government agency or department responsible for overseeing AGL's operation (the EPA, DoPI and Department of Trade and Investment), or by the auditors in the bi-annual Independent Environmental Audits of 2008 and 2010. The situation was self-reported by AGL following a change in the environment protection legislation requiring public reporting of monitoring data. Also concerning is that AGL was subsequently allowed to engage its own consultants to investigate the breach and report to the EPA even though this system of allowing AGL to **self-monitor, self-investigate and self-report** had already failed to pick up the breach for 4 years. The EPA has yet to decide its regulatory response but has advised that it is discussing an Enforceable Undertaking with AGL. We believe that this will be totally unacceptable to the community and will be regarded as a deal being done behind closed doors.

A preliminary report on this issue was provided by AGL to the Camden Gas Project Community Consultative Committee on the 16th August 2012. However we have accessed documents from the EPA via a GIPA request and would be happy to provide a further report when we have completed our review.

We also note that this is the third breach of AGL's EPL relating to air quality that we know of in as many years. The first two were only brought to the public's attention by the media. The regulatory responses to both were unacceptable. Details of previous breaches are:

- On the 31st August 2011 Channel 7 News reported it had sourced documents showing that AGL had pumped 30% more acid-rain causing sulphur oxides into the air at its RPGTP than permitted by its licence for three years running. AGL claimed that the original levels it had agreed to were un-measurable. The EPA's response was to **modify the licence conditions** so that AGL has since complied.
- On the 17th May 2011, AGL was caught by Channel 10 News venting the contents of a well clean-out (*well maintenance workover*) to the air near the Upper Canal carrying Sydney's back-up water supply and towards houses in Glen Alpine near Campbelltown. There was a school nearby. In the following investigation, AGL was allowed to collect its own soil and water samples for analysis at an external laboratory and to later engage its own consultant to report to the EPA. The EPA later determined that AGL had not followed procedure but as there was no significant environmental harm it was **given a warning**. The reason for grass 'discolouration' where the contents had landed was never explained.

2.7 Baseline studies versus precautionary principle

A critical problem in assessing the impacts of CSG mining in Australia, including the Camden Gas Project, is that there are no baseline studies. These should be done as a matter of course. However this omission is now being used to justify pushing ahead with CSG mining in new locations (such as Stage 3 in the Sydney Metropolitan Area) by merely making baseline studies a ‘condition of consent’. This is unacceptable for a variety of reasons:

- The industry is being allowed to conduct its own baseline studies (albeit with third party consultants) when it has a vested interest in the outcome.
- True baselines are not being taken (or the flaws are not being acknowledged) e.g. in Stage 3 where AGL is taking a baseline *after* it has already explored for CSG in the area.
- Baselines cannot protect either health or environment from harm; they can only say that a change (harm) has occurred once CSG mining has commenced.
- Baselines cannot necessarily form the basis for remediation and/or compensation since *cause* must also be established.

Baselines studies should never be used as a condition of approval where there is the potential for significant and irreparable damage to health and environment. The precautionary principle must apply. We believe that health and environmental research must now be directed towards using other methods to establish its impact in areas where CSG mining already exists, rather than turning new areas into vast experiments in human health and environment using baseline studies.

2.8 Necessity for merits appeal rights to the LEC for all applications and breaches of conditions

We have already covered this in point 2.4 but merely wish to highlight the importance of this issue in ensuring good information that is transparent and stands up to scrutiny. The only way to ensure this is to allow the community merits appeal rights to the LEC for all CSG mining applications and appeal rights for breaches of consent conditions, conditions of petroleum licences and leases and conditions of environment protection licenses *independently* of and/or *in addition to* any action taken by the supervising government agencies or departments.

Further, to ensure equity with the vast resources of the CSG mining industry, communities must have access to affordable advice and support such as that provided by the Environmental Defenders Office (EDO). Currently the NSW Government, under apparent pressure from the mining industry, is moving to restrict access to the EDO and reduce its funding.

2.9 Why ‘best practice’ is not good enough!

‘Best practice’ is a dubious concept in most contexts, but in an industry that appears to be generally under a cloud and that is also *technologically evolving*, ‘best practice’ is not appropriate. It is certainly no substitute for *good science* in relation to impacts on health and environment and should be dismissed from the Terms of Reference.

2.10 Need for transparency

We have already dealt with this but wish to highlight its importance. Good science can only come from scrutiny: by the community, by legal process and by peer review. There has to be transparency in the science.

Should you wish to discuss any part of this submission we would be more than happy to meet with you or other staff in your Office.

Yours sincerely

A handwritten signature in cursive script, appearing to read "Jacqui Kirkby", is displayed on a light green rectangular background.

Jacqui Kirkby
Scenic Hills Association



27th June 2013

Professor Mary O’Kane
Chief Scientist and Engineer
NSW Office of Chief Scientist and Engineer
SYDNEY NSW 2000

Sent by email to csq.review@chiefscientist.nsw.gov.au

Dear Professor O’Kane

Re: Supplementary submission to our submission of 26th April: Independent Review of Coal Seam Gas (CSG) Activities in NSW, focussing on its impact on Human Health & Environment

I write on behalf of the Scenic Hills Association. The Scenic Hills fall within AGL’s proposed Northern Expansion (Stage 3) of the Camden Gas Project. We have been actively involved with the Camden Gas Project for more than three years and have represented this area on its Community Consultative Committee since November 2010.

We wish to respond to commentary on the Camden Gas Project made by Dr Philip Pells in his submission to you (“Submission”) entitled *On the Cynicism of the Public to Information provided regarding Coal Seam Gas Operations – a Gloucester, NSW example*, which Dr Pells kindly forwarded to us. In that submission Dr Pells wrote the following:

‘It was stated that AGL had operated the Camden gas field since 2001 and this should give the people of Gloucester great confidence in respect to safe operations in the Gloucester basin.

‘The truth is that the Camden gas field had been owned and operated by Sydney Gas since 2001, and AGL only bought Sydney Gas in 2008.

‘The writer has gone on record, in public, noting that the location of the existing AGL operations at Camden is appropriate for extraction of CSG, in relation to groundwater systems, that the wells are not visually intrusive from the ground and from the air, and that AGL appears to operate a technologically and professionally competent operation. But this does not mean that Camden is a direct analogy for a CSG field in a completely different geological, surface water and agricultural environment such as at Gloucester. One simple example of the difference is that AGL have stated (EIS for proposed Camden North extension) that no future wells in Camden will involve hydrofracturing, whereas at the meeting on 16 May, the manager of AGL stated that hydrofracturing (fracking) would be used in all the wells at Gloucester.’

We accept the key point that Dr Pells is trying to make here: that AGL cannot draw conclusions about Gloucester from its operations at Camden due to differences in the geology, surface water and land use. However we are concerned about the way in which Dr Pells makes his arguments using Camden as a

contrast, the inaccuracies in some of the information presented about Camden and the conclusions that could be drawn from this for the Camden Gas Project area (“Camden” or “Camden area”)¹.

Dr Pells made similar commentary at a community forum at Picton in the Wollondilly Shire on the 29th April 2013, and on the ABC’s 7.30 NSW on the 22nd February 2013 where he stated, in relation to aquifer protection (7.30 NSW): *“In my opinion the Camden area is probably one of the better if not the best areas for coal seam gas extraction in NSW so, I find it a little bit unfortunate that what from the scientific point of view appears to be a good area to...extract this resource is now under significant pressure and what appears to me to be a very uncertain area with potential downside is going ahead.”*

It is not our intention to distort Dr Pells views by taking them out of context or misconstrue what he has stated, but we are concerned that some of his statements lend themselves to this. We also note that Dr Pells states in his Submission that he is *‘actually in favour of CSG extraction in appropriate locations.’* We are concerned, taking commentary from these different sources into account, that he might mean the Camden area. It is this that we want to address in this supplementary submission.

Before proceeding with our arguments, we wish to state that we have limited knowledge of the Gloucester area and our commentary below should not be taken as an endorsement of coal seam gas mining there. Our concerns are purely with Dr Pells’ comments on the Camden Gas Project:

1. The Camden area is a ‘good’ place to extract CSG

Dr Pells’ usage of the terms ‘good’ or ‘appropriate’ (a good/appropriate place to extract CSG), when not immediately *qualified* by Dr Pells, can give the impression that, as an accepted expert in coal seam gas mining impacts, he supports coal seam gas mining in the Camden area. His comments about the *visibility of the wells* (which has nothing to do with ‘groundwater’) and the *non-use of fracking* in Camden North (which is incorrect) reinforce that impression. Casual commentary is now coming back to us suggesting that Dr Pells’ views are starting to get traction, *without qualification*. We therefore feel that if it is *implied* and/or *perceived* that this view comes from an expert, and it is indeed getting traction with decision makers, then it is important that the models and data used to support this view be open to full scientific scrutiny, and that groundwater impacts be understood in the context of other problems from CSG mining, particularly since the Camden Gas Project is in Sydney’s residential growth corridor and its further expansion would also take it into Sydney’s water catchment. We note that at the Wollondilly forum Dr Pells did make the distinction between his own area of expertise and other problems with CSG mining, however this was ‘muddied’ by other commentary (such as well visibility)².

2. Spin and the misuse of science

Dr Pells’ Submission explains, in relation to the Gloucester project, how the ‘spin and misuse of science’ by AGL and other informational errors can undermine public confidence. We agree, and that is why it is

¹ The Camden gas field that AGL refers to falls into three local government areas - Camden, Campbelltown and Wollondilly Shire and is known as the Camden Gas Project. We assume that Dr Pells, in referring to “Camden”, “the Camden area” and “the Camden gas field” is referring to the same thing as AGL, and that “Camden North” is the same as the “Northern Expansion”.

² We have covered the full context of other problems associated with CSG mining in the Camden area in our submissions to the Department of Planning, so will not repeat these here. This submission will only deal with Dr Pells commentary on Camden.

disconcerting that Dr Pells, having noted AGL's tendencies, appears to us to have accepted AGL's statements and data in relation to the Camden Gas Project and not seen how his own claims about Camden might undermine confidence in his views here, as follows:

a. AGL's track record in operating a coal seam gas project

Dr Pells suggests that AGL cannot claim experience from running the Camden Gas Project since 2001 because *it only bought Sydney Gas in 2008*. We agree that AGL's claims are contradicted by the fact that AGL management only took over when AGL acquired Sydney Gas in 2009, but this does not apparently apply to operational staff. The Camden Gas Project became a joint operation between Sydney Gas and AGL from late 2005 and AGL says that about 80% of its Upstream Gas Division staff is from Sydney Gas.

We make a different case that AGL cannot claim it has been safely running the Camden Gas Project since 2001, basing our arguments on other grounds (see Section 6 of our submission to the NSW Department of Planning on the Northern Expansion 7th February 2013). These grounds are in contrast to Dr Pells' view that AGL appears to operate *a technologically and professionally competent operation* at Camden.

b. Use of fracking in the Camden Gas Project

Dr Pells says AGL's EIS for the proposed Camden North [Northern Expansion] states that *no future wells in Camden will involve hydrofracturing*. Dr Pells does not provide a reference for this and we are unable to find where this comes from. In its Environmental Assessment for the Northern Expansion, AGL makes it clear that it will frack (Main Report, Section 4) and has further detailed its fracking operations in its Amended Environmental Assessment (Main Report Section 3.4.2). AGL reconfirmed earlier this year that while it did not frack its *horizontal* wells, it would frack the *vertical* wells in the Northern Expansion, which it predicted could be up to 20% of the wells, possibly more.

AGL has also made statements in relation to the future fracking of its *horizontal* wells (email attachment of 18th April 2012 sent to the CCC) as follows: *'although it is extremely unlikely and not current practice to fracture an SIS [horizontal] well, AGL cannot guarantee that it will never fracture an SIS well in the future.'* The reason AGL gave was that such a guarantee *'would not allow the company to evolve with technological advances'*. AGL had previously stated in the same attachment that *'[i]n October 2007, AGL in partnership with the CSIRO conducted research on two early SIS wells that were drilled into a low permeability area. The objective of this technical R&D was to determine if gas production could be achieved by further stimulation of a low permeable horizontal well. The trial was conducted and deemed unsuccessful. As such, fracturing technology is not considered suitable for horizontal wells.'*

AGL has fracked more than 80% of the wells in the Camden Gas Project to date and this is consistent with information provided in the Chief Scientist's report on fracking to the Hon. Chris Hartcher last year. In this report Professor Peter Cook was quoted as saying that fracking was more likely to occur in the Sydney and Gunnedah Basins (in NSW) where the Permian coals are relatively impermeable³.

³ Professor Peter Cook, Cooperative Research Centre for Greenhouse Gas Technologies (CO2CRC) and University of Melbourne, quoted in the Executive Summary of *Report for the Office of the Chief Scientist and Engineer of New South Wales*, 23rd April 2012.

In summary, if Dr Pells has raised the issue of fracking in his Submission because he believes that fracking is a risk to groundwater, then this risk also applies to the Camden Gas Project – albeit that with the current technology, less fracturing would initially occur here than in Gloucester (which could be because horizontal drilling is not suitable for Gloucester, or simply that AGL is able to pursue the cheaper option of vertical drilling)⁴. If, on the other hand, Dr Pells is merely highlighting AGL's differential use of fracking as an example of differences in the geology, then the evidence for this is not correctly stated and the point needs to be clarified for those of us less scientifically qualified.

c. Low visibility of wells in Camden

Dr Pells also appears to endorse the suitability of the Camden Gas Project for CSG extraction by suggesting that the wells are not visually intrusive. We feel this is misleading as it suggests a low impact on residents in the area, ignoring the significantly larger environmental footprint of these wells during drilling, laying of pipelines and access roads, and the activity associated with truck movements and rig movements during drilling, fracking, re-fracking and well maintenance workovers, and noting the closely settled nature of the Camden area. It also ignores the current proposal by AGL to cluster wells (and the associated activity) – up to six per cluster in the Northern Expansion proposal.

d. Adequacy of Camden groundwater models, data validity & unclear assumptions

We have a number of questions about the model used by Dr Pells in arriving at his conclusions about the Camden area, which has not, as far as we know, been made available for peer review. It is our understanding that the model is a conceptual model and relied in part on data gathered by AGL. We have already expressed our concerns in our prior submission about the reliability of data gathered by the industry, but there are further issues here. According to Dr Gavin Mudd of Monash University, AGL has never carried out any scientifically acceptable monitoring of shallow and deep aquifers in its existing gas production fields at Camden (Stages 1 & 2) and therefore can make no claim about groundwater impacts when it has *no data*⁵. AGL only started gathering groundwater data using dedicated bores in one location - being the most northern point in the Northern Expansion area - in late 2011 in anticipation of getting approval to extract gas in the area and needing to comply with the new regulatory regime. Currently there is no CSG extraction in the Northern Expansion area. We further note that AGL had previously explored the area without taking a prior baseline measurement, and the exploration wells were plugged and abandoned when AGL started gathering its data. AGL now justifies its groundwater monitoring here on the basis that it is downstream of its existing gas fields despite concerns about the distance of these monitoring bores from the producing gas fields. Exactly what data Dr Pells relied on, and the validity of that data is unknown.

Further, to our knowledge, AGL has not carried out any comprehensive hydro-geological mapping of the Camden Gas Project area. As such, AGL stated in its Amended Environmental Assessment for the Northern Expansion (Main Report, p. 35) that AGL's Phase 1 Groundwater Assessment and Conceptual

⁴ Note that AGL, in its Environmental Assessment for the Northern Expansion has not committed to the number of vertical wells vs. horizontal wells, such that the amount of fracking here would remain unknown until after approval of the project.

⁵ Dr. Gavin M. Mudd, *Environmental and Groundwater Issues and AGL's Hunter Coal Seam Gas Project*, Final Report to the Hunter Valley Protection Alliance, February 2010, p. 6. Dr Mudd made similar comments on the ABC's Four Corners "Gas Leak" 1st April 2013 and at a Campbelltown Community Information Forum on the 13th February 2013.

Hydrogeological Model (for the Northern Expansion) '*identified that the possibility cannot be ruled out that major fault zones could provide a hydraulic pathway through claystone horizons and that some shallow groundwater impacts may be observed in close proximity to those structures.*' We are concerned that comments made by Dr Pells at the community forum and ongoing commentary from AGL suggest that some collateral damage in a place like Camden is both assumed and accepted with these conceptual models without regard for exactly what might be damaged at the surface. In that regard, we are concerned that there is a view that only Strategic Agricultural Land (as defined by the NSW Department of Planning) has value but not historic properties located in the Camden Gas Project area (many of them state heritage listed and irreplaceable) or land reserved for agriculture in the Sydney Basin. Indeed we have been left with the impression that community concern for these assets (and any flow-on health and economic effects) is regarded as being based more on 'emotion' than logic. Scientific arguments need to have their assumptions openly stated so that they can be appropriately interpreted and justified.

Finally it is our understanding in speaking to Dr Pells that his comments about Camden were only meant in a *relative* sense with regard to the *extent* and *timeframe of impacts* on groundwater i.e. how rapidly the impacts would occur when compared with *some* other parts of NSW, such as Gloucester. This has not been made clear in his Submission, or on 7.30 NSW (the editing of which is the ABC's) or at the Wollondilly forum, but we believe that it is critical to the scientific substance of the argument. Once the argument is qualified in this way it raises deep concerns yet again about the assumptions behind this which do not appear to place much value on downstream, long term impacts and inter-generational equity, particularly as AGL claims that the aquifers here '*probably run into Sydney Harbour*', and noting Dr Mudd's view that AGL does not have the groundwater data or hydro-geological assessments to adequately assess the groundwater impacts and risks associated with coal seam gas mining in Camden.

We admire Dr Pells for his tireless work in supporting areas where groundwater impacts are likely to have immediate and dire consequences for those living there, particularly in a country like Australia with its history of droughts and reliance on groundwater systems. However we feel that arguments for individual areas can be made on a standalone basis without assuming that CSG must go *somewhere* and a Sophie's Choice trade-off made with other communities - particularly when that choice may be based on partial data and/or data that have not been made available for public scrutiny, and/or where assumptions are not clearly stated. We also believe that all arguments in the CSG debate, no matter which side they support, should be subjected to the same scientific rigour and that the *science* of coal seam gas extraction is not confined to groundwater alone.

Yours sincerely



Jacqui Kirkby
Scenic Hills Association